

Application S/N 10/721,444
Amendment Dated: February 14, 2006
Response to Office Action dated: September 23, 2005

CEI1066J1121

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S) Floyd D. Simpson GROUP ART UNIT: 2687
APPLN. NO.: 10/721,444 EXAMINER: Lam, Dung Le
FILED: November 25, 2003 Confirmation No. 7126
TITLE: RECEPTION AND TIMING METHOD AND APPARATUS

CERTIFICATE OF FAX TRANSMITTAL

I hereby certify that this correspondence is being transmitted via facsimile to the United States Patent and Trademark Office, at (571) 273-8300 Centralized Facsimile, addressed to: Mail Stop: AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date listed below:

Date: February 14, 2006

Signature:

Typed or
Printed Name:

Larry Brown

Mail Stop: AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**DECLARATION OF PRIOR INVENTION IN THE UNITED STATES
TO OVERCOME CITED PATENT OR PUBLICATION (37 C.F.R. §1.131)****PURPOSE OF DECLARATION**

1. This declaration is to establish completion of the invention in this application in the United States, at a date prior to March 25, 2003, which is the effective date of the prior art:

- ✓ Publication – U.S. Patent Application Publication No. 2004/0190467

Patent

That was cited by the

- ☒ Examiner
☐ Applicant

2. The person making this declaration is (are):

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- ☒ The inventor(s)
- ☐ Only some of the joint inventor(s)
(and a suitable excuse is attached for failure of the omitted joint inventor(s) to sign)
- ☐ The party in interest
(and a suitable explanation as why it is not possible to produce the declaration of the inventor(s) is attached)

FACTS AND DOCUMENTARY EVIDENCE

3. To establish the date of completion of the invention of this application, the following attached documents and/or models are submitted as evidence: (check all applicable items below)

- ☐ Sketches
- ☐ Blueprints
- ☐ Photographs
- ☐ Reproduction(s) of notebook entries
- ☐ Model
- ☐ Supporting statement(s) by witness(es) (where verbal disclosures are the evidence relied upon)
- ☒ Other: Motorola dated and witnessed patent disclosure

4. From these documents and/or models, it can be seen that the invention in this application was made

- ☐ On _____
- ☒ At least by the date of February 10, 2003, which is a date earlier than the effective date of the reference.

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DILIGENCE

5. Attached is a statement establishing the diligence of the applicants, from the time of their conception, which is prior to the effective date of the reference, up to the:

- ☐ Actual reduction to practice
- ☒ Filing of this application

TIME PRESENTATION OF THE DECLARATION

(Complete (a), (b), or (c))

6.

- ☒ (a) This declaration is submitted prior to final rejection
- ☐ (b) This declaration is submitted with the first response after final rejection, and is for the purpose of overcoming a new ground of rejection or requirement made in the final rejection
- ☐ (c) This declaration is submitted after final rejection. A showing under 37 C.F.R. §1.116(b) is submitted herewith

DECLARATION

7. As a person signing below:

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Application S/N 10/721,444
Amendment Dated: February 9, 2006
Response to Office Action dated: September 23, 2005

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SIGNATURES

Full name of first-named or sole inventor <u>Floyd D. Simpson</u>		
Inventor's signature <u><i>Floyd Simpson</i></u>	Date <u>2/9/2006</u>	
Residence <u>Lake Worth</u>	Florida	
City	State or Foreign Country	
Citizenship <u>United States of America</u>		
Country		
Post Office Address <u>5769 LAGO DEL SOL DR.</u>		
Street Address		
<u>Lake Worth</u>	<u>FL</u>	<u>33467</u>
City	State or Country	Zip Code

Full name of second-named joint inventor <u>Brian K. Smith</u>		
Inventor's signature <u><i>Brian K. Smith</i></u>	Date <u>2/10/2006</u>	
Residence <u>Wellington</u>	Florida	
City	State or Foreign Country	
Citizenship <u>United States</u>		
Country		
Post Office Address <u>4133 Bahia Isle Cir.</u>		
Street Address		
<u>Wellington</u>	<u>FL</u>	<u>33467</u>
City	State or Country	Zip Code

Application S/N 10/721,444
Amendment Dated: February 9, 2006
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CE11066JI121

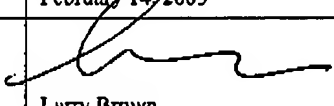
Full name of third-named joint inventor			Huai Y. Wang
Inventor's signature 		Date	2/9/06
Residence	Coconut Creek	Florida	
	City	State or Foreign Country	
Citizenship	Singapore		
	Country		
Post Office Address	6525 SANDPIPER DR.		
	Street Address		
Coconut Creek	FL	33073	
City	State or Country	Zip Code	

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S) Floyd D. Simpson GROUP ART UNIT: 2687
APPLN. NO.: 10/721,444 EXAMINER: Lam, Dung Le
FILED: November 25, 2003 Confirmation No. 7126
TITLE: RECEPTION TIMING METHOD AND APPARATUS

CERTIFICATE OF FAX TRANSMITTAL	
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Date:	February 14, 2005
Signature:	
Typed or Printed Name:	Larry Brown

Mail Stop: AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

STATEMENT ESTABLISHING THE DILIGENCE OF APPLICANTS

This statement establishes the diligence of the applicants, in the above-identified application, from the time of their conception up to the filing of this application.

1. We are the joint inventors of all claims of the above-identified patent application.
2. By at least February 10, 2003, we conceived, in the United States of America, the idea of a "Reception Timing Method and Apparatus" as described and claimed in our patent application. A patent disclosure containing a written description of the invention was

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prepared by us by at least February 10, 2003 and submitted to a Motorola patent committee for review. A copy of the patent disclosure is attached.

3. In reasonably regular order and in accordance with customary procedure, the Motorola patent committee agreed to pursue a patent application for our invention on March 25, 2003.

4. In reasonably regular order and in accordance with customary procedure, the invention disclosure was transferred to outside counsel for preparation of a patent application on June 18, 2003. A copy of the transfer letter is attached.

5. In reasonably regular order and in accordance with customary procedure, the present application was prepared by outside counsel and was filed on November 25, 2003.

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Floyd D. Simpson
FLOYD D. SIMPSON

DATE: 2/9/2006

STATE OF FLORIDA)
) ss: PLANTATION
COUNTY OF BROWARD)

The undersigned Notary Public, in and for the County and State aforesaid, does hereby certify that FLOYD D. SIMPSON, who is personally known to me and whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that he signed, sealed and delivered said instrument as his free and voluntary act and deed for the uses and purposes therein set forth.

Witness my hand and official seal this 9th day of February, 2006.

My commission expires: Jun 2, 2007

Dora E. Viles
Notary Public Signature

Dora Viles
Printed Name of Notary Public

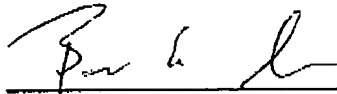
☒ FLOYD D. SIMPSON is personally known to me.



Dora E. Viles
Commission #DD219147
Expires: Jun 02, 2007
Bonded Thru
Atlantic Bonding Co., Inc.

Application S/N 10721,444
Amendment Dated: February 9, 2006
Response to Office Action dated: September 23, 2005

CE11066JI121



BRIAN K. SMITH

DATE: 2 / 10 / 2006

STATE OF FLORIDA)
) ss: PLANTATION
COUNTY OF BROWARD)

The undersigned Notary Public, in and for the County and State aforesaid, does hereby certify that Brian K. Smith, who is personally known to me and whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that he signed, sealed and delivered said instrument as his free and voluntary act and deed for the uses and purposes therein set forth.

Witness my hand and official seal this 10th day of February, 2006.

My commission expires: June 2, 2007


Notary Public Signature

Dora Viles
Printed Name of Notary Public

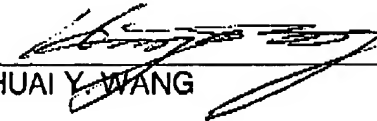
☒ BRIAN K. SMITH is personally known to me.



Dora B. Viles
Commission #DD219147
Expires: Jun 02, 2007
Bonded Thru
Atlantic Bonding Co., Inc.

Application S/N 10/721,444
Amendment Dated: February 9, 2006
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CE11066J1121



HUI Y. WANG

DATE: 2/9/06

STATE OF FLORIDA)
) ss: PLANTATION
COUNTY OF BROWARD)

The undersigned Notary Public, in and for the County and State aforesaid, does hereby certify that HUI Y. WANG, who is personally known to me and whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that he signed, sealed and delivered said instrument as his free and voluntary act and deed for the uses and purposes therein set forth.

Witness my hand and official seal this 9th day of February, 2006.

My commission expires: June 2, 2007



Notary Public Signature

Dora Viles

Printed Name of Notary Public

☒ HUI Y. WANG is personally known to me.





Dora E. Viles
Commission #DD219147
Expires: Jun 02, 2007
Bonded Thru
Atlantic Bonding Co., Inc.



intelligence - Innovation Disclosure

Disclosure CE11066JI121 (18339)

ID: CE11066JI121 (18339)
Title: Distributed Method to Minimize Collision at Wake Up Time Using 802.11 Automatic Power Save Delivery Mode.

Innovators: Floyd Simpson, Brian Smith, Stephen Wang
Status: Filed 
Disposition: Pursue 
Submitted Date: 10 Feb 2003
Review Date: 25 Mar 2003
Motorola Business: NET
Patent Committee: Plantation - IDEN Subscriber Group - WLAN Low Power Techniques
Business Unit: NET-IDEN Subscriber Group (ISG)
Organization: GTSS, IDENWLAN, ISG, ISTO
Department: EX506
Location: FL08
Submit Country: USA

Workflow

Role	Name	Action
First Innovator	Floyd Simpson	<u>Verification Complete 2/17/2003</u>
Co-Innovator	<u>Brian Smith</u>	<u>Verification Complete 2/11/2003</u>
Co-Innovator	<u>Stephen Wang</u>	<u>Verification Complete 2/17/2003</u>
Witness	<u>Zaffer Merchant</u>	Acknowledgement Complete 2/11/2003, Notebook Not Signed
Witness	<u>Suren Perera</u>	Acknowledgement Complete 2/10/2003, Notebook Signed
Manager	Al Khawand	Acknowledgement Complete 2/17/2003
Business Reviewer	<u>Greg Fern</u>	<u>Review Complete 4/1/2003</u>
Technical Reviewer	Eric Eaton	Review Complete 3/5/2003
Technical Reviewer	<u>David Hayes</u>	<u>Review Complete 3/5/2003</u>
Technical Reviewer	<u>Jose Komeluk</u>	<u>Review Complete 2/25/2003</u>
Technical Reviewer	Mike Rudowicz	Review Complete 2/21/2003
Attorney Reviewer	<u>Scott Garrett</u>	<u>Review Complete 3/13/2003</u>

Reviewer Information

Role	Name	Action
Business Reviewer	<u>Greg Fern</u>	
Technical Reviewer	<u>Eric Eaton</u>	

Technical Reviewer David Hayes
Technical Reviewer Jose Korneluk
Technical Reviewer Mike Rudowicz
Attorney Reviewer Scott Garrett
Grading Results

Documents

No documents were submitted with this disclosure

Questions

Name of Innovation or Engineering Development?

Distributed Method to Minimize Collision at Wake Up Time Using 802.11 Automatic Power Save Delivery Mode.

What is the problem(s) to be resolved by or need(s) for your idea?

The QoS Facility defined in the 802.11e spec will enhance the 802.11 wireless LAN protocol with new capability to use an automatic power save delivery mode (APSD). In this mode, stations (a.k.a. client, subscriber unit, handset, etc.) will be able to signal to the AP the time when the station will come out of sleep mode ('start time') to listen for any pending traffic buffered at the AP. With APSD, AP will automatically deliver any pending traffic to the station at the stations 'start time'. The problem is that stations chose their 'start time' autonomously which may result in collisions if two or more stations chose the same 'start time' or start times that overlap due to the duration of packets being sent. The 802.11e spec solves this problem by requiring a 'scheduler' at the AP. The role of the 'scheduler' is to rearrange the 'start time' chosen by stations relative to other stations being served by the AP to one in which collisions are avoided by sending a schedule back to the station after receiving the stations requested 'start time'. This is a centralized approach. The disclose idea provides a distributed method to address the problem.

What patents or publications describe your idea and why don't they resolve the problem(s) or fulfill the need(s)?

The 802.11e draft 4.0 spec and doc. 03/107r1 "Proposed Normative Text for Simplified APSD" presented at the Jan'03 IEEE 802.11 interim meeting in Ft. Lauderdale.

What is the idea you are disclosing? Please provide a written description summarizing the idea. Please define all acronyms and other terms of art used.

The idea is that stations would send APSD request to the AP as before sending in the 'start time' and the 'wake up time period' as defined in doc. 03/107r1 above. The AP would not need a scheduler as required by the 802.11 spec. Instead, for each associated station, the AP would add information to the Beacon frame that contains the 'start time' and 'wake up time period' of each associated station along the channel occupancy time (TxOP) expected to be used when the station wakes up. Since the AP and associated stations maintain sync in their timers, the 'start time' may be specified relative to the TBTT (target beacon transmission time) of Beacons and in discrete number of time units (1 TU = 1024 micro sec). Because of the additional overhead being added to Beacon frames, the AP should use a low complexity loss-less coding of the bits, for example run-length coding before putting the bits in the Beacon frame. Under this idea stations would select their 'start time' based on the information received in Beacons to avoid 'start time' already taken by other associated stations. The algorithm to do this is simply based on finding an empty time period on a timeline where the timeline is populated with blank out periods already selected by other stations (The timeline in MS Outlook is a good analogy).

Algorithm to help STAs reduce the chance of collision when selecting empty time slots.

Assumption 1: There are N empty time slots available in the Beacon period and they are numbered as 1, 2, 3, ..., N

Assumption 2: There are X active stations in the QBSS (X = Station Count in the Beacon

QBSS Load Information Element

Assumption 3: Y is a random integer between 1 and X

The Selected Empty Time Slot = $Y \bmod N$

This algorithm will not eliminate collision but helps to reduce the chance of collision, especially where there are larger number of active stations in the QBSS.

How does this idea resolve the problem(s) or fulfill the need(s) in a new way?

Uses broadcasting of a stations 'start time' and other parameters and distributed selection by stations of thier 'start time' to avoid collision with other stations.

How or where will this idea be used (e.g. what process or product will it be applied to)?

In Motorola dual mode cellular/WLAN VoIPoWLAN handsets

Please enter one or more key words that may be used to identify your disclosure.

Is this disclosure a resubmission of a disclosure you have previously submitted?

NO

Please enter the forum from which this idea originated - e.g. Quest for Innovation, Advanced Inventing Session, Patent Scrub, etc. (Optional).

Do you plan to disclose your idea outside of Motorola (e.g. conference, publication, customer meeting, product offering, etc.)?

NO

Is your idea known or has it been disclosed outside of Motorola without a duty of confidence (e.g., non-disclosure agreement, joint development agreement, etc.)?

NO

Has a product incorporating your idea been sold, offered for sale, placed in production, qualification, sampled, described in any publication (including Motorola promotional literature), marketed, shipped to anyone outside of Motorola (customer or distributor), or placed into inventory?

NO

What is the earliest verifiable date that you communicated your idea to an individual that is NOT an innovator (e.g., the date a non-innovator witness signed your engineering notebook)?

Jan 29, 2003

Was your idea created or developed through work performed with a consortium, alliance, government contract, university, or joint venture?

NO

Please specify the Export Control Classification Number(s) (ECCN) to which this disclosure pertains

Unknown

Standards

None Selected

Key Technologies

NET - 120 WLAN

NET - 121 WLAN:Low power techniques(ISG)

Innovators

Floyd D Simpson

The address and personal information for this innovator should be treated as confidential.

Commerce ID:	10002598	Core ID:	EFS002
Phone:	954-723-5269	Fax:	954-723-3391
Email:	Floyd.Simpson@motorola.com		
Department:	EX506	Location:	FL08
Mail Drop:	52-4KK	Manager:	Al Khawand
Motorola	NET	Business	NET-IDEN Subscriber Group
Business:		Unit:	(ISG)
Citizenship:	USA		
Residential	5769 Lago Del Sol Dr	Mailing	5769 Lago Del Sol Dr
Address:	Lake Worth, FL 33467 USA	Address:	Lake Worth, FL 33467 USA

Brian K Smith

The address and personal information for this innovator should be treated as confidential.

Commerce ID:	10106754	Core ID:	EBS011
Phone:	954.723.5516	Fax:	
Email:	Brian.K.Smith@motorola.com		
Department:	UA580	Location:	FL08
Mail Drop:	3BB6	Manager:	Richard Wendelken
Motorola	NET	Business	NET-IDEN Subscriber Group
Business:		Unit:	(ISG)
Citizenship:	USA		
Residential	4133 Bahia Isle Cir	Mailing	4133 Bahia Isle Cir
Address:	Wellington, FL 33467 USA	Address:	Wellington, FL 33467 USA

Hual Y Wang (Stephen)

The address and personal information for this innovator should be treated as confidential.

Commerce ID:	10137685	Core ID:	FSW023
Phone:	(954) 723-8124	Fax:	
Email:	FSW023@email.mot.com		
Department:	UA580	Location:	FL08
Mail Drop:	52-4KK	Manager:	Floyd Simpson
Motorola	NET	Business	NET-IDEN Other
Business:		Unit:	
Citizenship:	Singapore		
Residential	5018 Polaris Cove	Mailing	5018 Polaris Cove
Address:	Greenacres, FL 33463 USA	Address:	Greenacres, FL 33463 USA

ver 2

Attorney-Client Privileged Upon Completion

Send any comments to: [eIntelligence Contacts](#)
Last Updated: 7 December 2005[Privacy Practices](#)© Copyright 2000-2005 Motorola, Inc. All Rights Reserved.
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m

Intellectual Property Department
Patents, Trademarks and Licensing

June 18, 2003

Steve Parmelee
Fitch, Even, Tabin & Flannery
120 South La Salle Street
Suite 1600
Chicago, IL 60603-3406

Re: Motorola Disclosures

Dear Steve Parmelee, Esq.,

Enclosed are four disclosures that we are submitting to your firm. These applications need to be prepared and filed within 60 days, as agreed to with Lalita Pace.

Letters accompanying drafts applications to inventors should include a date by which inventors should provide comments/revisions to draft applications. The date should be set at 5 business days from the date the draft is provided to the inventors. The cover letter shall also inform the inventors that the 5-day turn around time has been set by Motorola and should be strictly adhered to.

Buni Case will serve as liaison between the inventors and your firm to ensure that the inventors respond to drafts in a timely manner. Please copy Buni Case on all draft applications sent to the inventors.

Buni Case Contact Information	(954) 723-6152 - Buni.Case@motorola.com
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1303 E. Algonquin Road., Schaumburg, IL 60196 (847) 538-2450
Telcx No. 28 25 62 Fax No. (847) 576-3750

Page 2

Docket Number	CE11066JI121
Contact Inventor	Floyd Simpson
Contact Information	(954) 723-5269 - Floyd.Simpson@motorola.com
Title of Disclosure	Distributed Method to Minimize Collision at Wake Up Time Using 802.11 Automatic Power Save Delivery Mode.
Managing Attorney/Agent Information	Larry Brown lgbrown@motorola.com
Motorola Illustrator Information	Bill Murry (954) 723-3821 - EBM002@motorola.com

Docket Number	CE10451J
Contact Inventor	Floyd Simpson
Contact Information	(954) 723-5269 - Floyd.Simpson@motorola.com
Title of Disclosure	Method and Apparatus For 802.11 Power Saving
Managing Attorney/Agent Information	Larry Brown lgbrown@motorola.com
Motorola Illustrator Information	Bill Murry (954) 723-3821 - EBM002@motorola.com

Docket Number	CE10931JI017
PLEASE NOTE	US5898696 (Motorola); other art discusses varying the data rate and number of channels or bandwidth used, US6144646 (Motorola) and US6400731.
Contact Inventor	Jean Khawand
Contact Information	(954) 723-6187 - Jean.Khawand@motorola.com
Title of Disclosure	Link SQE Estimation For optimal Data Throughput on a Wideband Channel
Managing Attorney/Agent Information	Larry Brown lgbrown@motorola.com
Motorola Illustrator Information	Bill Murry (954) 723-3821 - EBM002@motorola.com

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 Telex No. 28 25 62 Fax No. (847) 576-3750

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Docket Number	CML00832J
Contact Inventor	Stephen Emeott
Contact Information	(847) 576-8268 - Steve.Emeott@motorola.com
Title of Disclosure	A method of scheduling WLAN VoIP frame transmissions using distributed control
Managing Attorney/Agent Information	Lalita Williams Pace (847) 538-5855 - Lalita.Williams@motorola.com
Motorola Illustrator Information	Brad Johnson (847) 576-6983 - ABJ002@motorola.com

Docketing Department Address For Larry Brown	Intellectual Property - Docketing 8000 West Sunrise Boulevard FL08 - 1610 Plantation, FL 33322-9947
Docketing Department Address For Lalita Pace	Intellectual Property - Docketing 1303 E. Algonquin Road IL01 - 3 rd Floor Schaumburg, IL 60196
Invoices Address	Motorola Law Department - Finance 1303 E. Algonquin IL01- 11 th Floor Schaumburg, IL 60196
Outsourcing Administrator	Leo Donlin (847) 538-2450 - ald080@motorola.com

Please provide us with cost estimates for the disclosures.

Sincerely,
Leo A. Donlin
Outsourcing Administrator
Motorola, Inc.

Corporate Offices
1303 E. Algonquin Road., Schaumburg, IL 60196 (847) 538-2450
Telex No. 28 25 62 Fax No. (847) 576-3750